



SAN FRANCISCO WASTEWATER PROGRAM

City and County of San Francisco, 150 Hayes Street, San Francisco, California 94102, Telephone (415) 558-2137

October 22, 1980

Mr. Neil Dunham
Deputy Executive Director
State Water Resources Control Board
P. O. Box 100
Sacramento, CA 95801

Mr. Fred Dierker
Executive Director
Regional Water Quality Control Board
1111 Jackson Street
Oakland, CA 94607

Dear Messrs. Dunham and Dierker:

This letter provides information on the effect of various funding scenarios on Clean Water Program construction schedules, cash flow, and needs for additional City bond authorization. It also presents cost data on the City's back-up options to split-flow at the Southeast Plant.

1. Alternative Master Plan schedules requested by Mr. Barnickol in his letter of September 18, 1980

The attached schedules cover the 3, 4, 5 and 6 year funding scenarios outlined in Mr. Barnickol's letter and include reasonable times to cover the eleven "time frames" discussed in the second paragraph of that letter. The attached schedules use the same format as the schedule contained in the City's Application for Amendment of Compliance Schedules of June 21, 1980.

Mr. Barnickol proposed two different 4-year funding scenarios; one emphasizing the Crosstown Pump Station and the Sunnydale/Yosemite facilities; the other emphasizing the Crosstown Tunnel. However, since both of these funding scenarios could be accommodated by a single construction schedule, only one 4-year schedule is attached.

All schedules allow for one wet-weather season of operation (basically November through March) of all Stage II facilities prior to the start of construction of any of the Stage III facilities. After evaluation of the effectiveness of the Stage II facilities, it may be

decided that certain Stage III facilities would not be required, or should be redesigned. If, for example, split-flow produces a thoroughly satisfactory effluent quality, it would not be prudent to abandon this operation in favor of the Stage III capacity at the Southwest Plant.

Also attached are (1) a cost matrix showing a facility by facility cost comparison for each of the funding scenarios, (2) a cash flow analysis for each funding scenario; and (3) a discussion of the implications of the redesign of the Ocean outfall on the pending Corps and EPA permits for the outfall.

2. Alternatives to Split Flow

Attached are the cost comparisons for the three options to split flow, as requested by Mr. Barnickol. The most cost effective alternative-to split-flow is the second option, calling for pretreatment only for the 110 mgd that would go through the secondary process side under "split-flow". This conclusion is based on the following:

- o It is the cheapest of the three alternatives, almost \$57 million cheaper than the next least expensive alternative.
- o It would have the least impact on the schedule since its implementation would entail only redesign of a portion of the pump station, and the simple deletion of the time line for split-flow shown on the schedules. The delay in implementing this alternative would depend on the date that a decision is made on it. If the decision is made early in the design phase, little or no delay would occur. The other two alternatives would require partitioning of the Crosstown Tunnel with the initial construction thereby adding approximately 1 year to the completion date of Stage II.
- o With our proposed single barrel outfall, there would be full compliance with Ocean Plan Table B standards for toxic materials. With the two barrel outfall there could conceivably be rare violations of the instantaneous maximum for chromium. The wet-weather discharge will be four miles offshore and would have only a remote probability of the field coming ashore. Therefore, regardless of the level of treatment, there would be a very high level of protection for the beneficial uses.

Adoption of either of the other two alternatives would have a more profound effect on the schedules, cost considerably more, and provide little, if any, additional benefits.

3. Bond Election

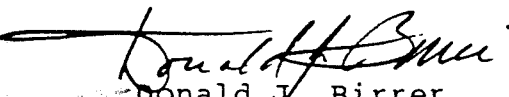
The City's share of the Stage II costs under all funding scenarios could be financed by the existing bond authorizations totalling \$300 million. This assumes; (1) The actual costs 'average out' within our cost estimates including the 12% per year inflation allowance. (2) The City's share can be held to 17% of the total project cost.

Stage III facilities under all funding scenarios will require further authorization of bonds, normally through a bond election.

Bond elections are ordinarily scheduled to coincide with general elections as defined in the Elections Code, and not less than six months before bonds have to be sold. The six months allow for certifying the election results, preparing the bond offering statement, obtaining competitive bids from underwriters, and delivering the bonds to the successful bidder. At a minimum, General Elections are held in November of every year and in June of even-numbered years.

We are in complete agreement with you that an early consensus of the funding schedule is essential if we are to expeditiously complete our program. Our staff is available to answer any questions you may have, and we look forward to meeting with you in order to complete negotiations on the vital issue of funding schedules.

Very truly yours,


Donald J. Birrer
Executive Director
Clean Water Program

cc: Roger Boas, CAO
Zane Gresham, M & F
N. Lovelace, EPA
A. Jennings, SAG
Document Control

bcc: All Program Managers
All Project Managers
D. Jones
S. Kushnick

CORPS OF ENGINEERS AND EPA

PERMIT AMENDMENTS

We have the following comments on the concerns expressed in Mr. Dierker's October 10 letter to Mr. Boas regarding the Outfall.

Both the NPDES permit and the Army Corps of Engineers permit were predicated on a three-pipe outfall system with a total capacity of 670 MGD. This is a "worst case" condition in terms of construction and discharge impacts to the environment. Prior to the public hearings, these agencies indicated that if a smaller outfall system is subsequently proposed, the permit would be amended administratively if the smaller outfall system would have reduced environmental impact.

The proposed one-pipe, 450 MGD capacity outfall will provide equal dry weather dilution and significantly better wet-weather initial dilution than the multi-pipe system. The minimum wet-weather initial dilution will be approximately 50:1 (Plume Model-worst measured oceanographic conditions). The single pipe outfall will cost approximately \$18 million less than the two-pipe system and has a present worth life savings of an additional \$40 million due to lower Operation and Maintenance costs.

We have requested a maximum extension of the grant until May 13, 1981 and we anticipate awarding this contract by May 1, 1981.

We are diligently working to satisfy all Coastal Commission permit conditions for the outfall and anticipate all of the conditions will be satisfied before the Notice to Proceed date of 6/15/81.

We therefore anticipate the above permits could be amended administratively and construction started within the present schedule and amended grant expiration date. We hope the Regional Board could take similar administrative action in amending its permit.

COST COMPARISON
ALTERNATIVES TO SPLIT FLOW

ALTERNATE #1: OPERATE THE SWWPCP AT AN OVERFLOW RATE OF
3,320 GAL/FT DAY

Wet-Weather treatment would be as follows under this alternate:

SEWPCP	110 MGD Primary Only
	<u>100 MGD Primary & Secondary</u>
	210 MGD Sub-total
SWWPCP	240 MGD High Rate Primary
NPWPCP	<u>140 MGD Primary</u>
TOTAL	590 MGD

The additional Stage II project costs for this Alternate are:

<u>Item</u>	<u>Cost (\$ x 10⁶)</u>
Compartmentalization of the Crosstown Tunnel	54.3
Screenings at Soule Steel	1
Minor Hydraulic Work @ SWWPCP	2
Delete Liquid Phase @ SEWPCP	(11)
Delete 2nd Force Main Soule to SEWPCP	(4.5)
Pump Station Savings	<u>(9.0)</u>
Net Stage II Cost Increase	\$33

ALTERNATE #2: PROVIDE PRE-TREATMENT ONLY FOR 110 MGD OF BAYSIDE
FLOW

Wet-weather treatment would be as follows under this Alternate:

SEWPCP	110 MGD Primary Only
	<u>100 MGD Primary plus Secondary</u>
	210 MGD Sub-total
Soule Steel	110 MGD Pretreatment Only
SWWPCP	130 MGD Primary
NPWPCP	<u>140 MGD Primary</u>
TOTAL	590 MGD

The additional Stage II project costs for this Alternate are:

<u>Item</u>	<u>Cost (\$ x 10⁶)</u>
Screens @ Soule Steel	1
Delete Liquid Phase @ SEWPCP	(11)
Delete 2nd Force Main	(4.5)
Pump Station Savings	(9.0)
<u>Net Stage II Cost*</u>	<u>(\$24)</u>

* (i.e., there is a savings of \$24,000,000)

ALTERNATE #3: INCLUDE 110 MGD OF THE PHASE 2 SWWPCP CAPACITY WITH PHASE 1 (i.e., Stage II) CONSTRUCTION

Wet-weather treatment would be as follows under this alternate:

SEWPCP	110 MGD Primary
	<u>100 MGD Primary plus Secondary</u>
	210 MGD Sub-total
SWWPCP	240 MGD Primary
NPWPCP	<u>140 MGD Primary</u>
TOTAL	590 MGD

The additional Stage II project costs for this Alternate are:

<u>Item</u>	<u>Cost (\$ x 10⁶)</u>
Compartmentalization of the Crosstown Tunnel	54.3
110 MGD Additional Capacity @ SWWPCP	54
Savings from deletion of Split Flow	<u>(24.5)</u>
<u>Net Stage II Cost Increase</u>	<u>\$84</u>

Notes:

- (1) Degritting at Soule Steel is assumed for split-flow and all three of its alternatives, hence no costs for degritting are included.
- (2) Discharge locations and quantities (but not qualities) are the same for split-flow and all three alternatives.

3 YEAR SCHEDULE**SUMMARY OF FUNDING SCHEDULES**

INFLATION:	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
12%	93.4	208.8	597.7	66.0							965.9
STAGE III							2.3	673.9			676.2

GRANTS TO DATE... 631.0

TOTAL..... 2,273.1**4 YEAR SCHEDULE (EMPHASIS ON SUNNYDALE/YOSEMITE AND CROSSTOWN PUMP STATION)**

INFLATION:	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
12%	93.4	400.7	304.2	176.6							974.9
STAGE III							2.3	673.9			676.2

GRANTS TO DATE... 631.0

TOTAL..... 2,282.1**4 YEAR SCHEDULE (EMPHASIS ON CROSSTOWN TRANSPORT)**

INFLATION:	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
12%	93.4	444.8	260.1	176.6							974.9
STAGE III							2.3	673.9			676.2

GRANTS TO DATE .. 631.0

TOTAL..... 2,282.1**5 YEAR SCHEDULE**

INFLATION:	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
12%	93.4	208.8	260.1	348.7	99.1						1,010.1
STAGE III									2.3	753.6	755.9

GRANTS TO DATE... 631.0

TOTAL..... 2,397.0**6 YEAR SCHEDULE**

INFLATION:	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
12%	93.4	208.8	130.6	415.4	86.2	111.5					1,045.9
STAGE III									2.3	842.8	845.1

GRANTS TO DATE... 631.0

TOTAL..... 2,522.0

PROJECT COST COMPARISON

3, 4, 5 & 6 Year Funding Scenarios

PROJECTS STAGE I & II	COSTS (\$ MILLIONS)			
	3 YEAR	4 YEAR	5 YEAR	6 YEAR
OCEAN OUTFALL*(INCREASE)	47.4	47.4	47.4	47.4
SOUTHWEST PLANT (PHASE I)	98.9	98.9	98.9	98.9
CROSTOWN TUNNEL	246.9	246.9	267.9	267.9
RICHMOND STORAGE/TRANSPORT	44.2	47.9	53.4	59.5
LAKE MERCED STORAGE/TRANSPORT	38.0	40.5	45.2	50.5
GREAT HIGHWAY RESTORATION	29.5	29.5	29.5	29.5
S.E. MITIGATION	15.9	15.9	15.9	15.9
SOLIDS MANAGEMENT FACILITIES	51.4	51.4	51.4	51.4
ISLAIS CREEK STORAGE/TRANSPORT	46.4	46.4	46.4	56.0
CROSTOWN PUMP STATION	112.4	112.4	112.4	112.4
CHANNEL-ISLAIS (DIVISION ST. CONNECTION)	6.2	6.2	6.2	6.2
SUNNYDALE-YOSEMITE S/T	90.0	90.0	90.0	95.9
NORTHSHORE TRANSPORT STEP 2	0.7	0.7	0.7	0.7
MARIPOSA STORAGE/TRANSPORT	10.7	11.5	11.5	12.8
HUNTERS POINT STORAGE/TRANSPORT	13.4	14.4	14.4	16.0
NORTH POINT W W CONVERSION	0.9	0.9	0.9	0.9
NPX 6B & C - 5	4.7	4.7	4.7	4.7
CITYWIDE CONTROL SYSTEM	11.7	11.7	11.7	11.7
S.E. SPLIT FLOW	9.6	9.6	9.6	9.6
W.S.T. FINAL OPERATIONS COMPONENTS (W-7)	4.2	4.2	4.2	4.2
S.E. D.W. SOLIDS HANDLING	10.1	10.1	10.1	10.1
WESTSIDE PUMP STATION	29.5	29.5	29.5	29.5
MSOC ACTIVATION	3.4	3.4	3.4	3.4
PROGRAM WIDE	27.8	28.8	32.8	38.8
COASTAL COMMISSION	12.0	12.0	12.0	12.0
GRANTS TO DATE	631.0	631.0	631.0	631.0
SUB-TOTAL STAGE I & II	1596.9	1605.9	1641.1	1676.9
STAGE III				
OCEAN OUTFALL STEP 2	2.3	2.3	2.3	2.3
OCEAN OUTFALL STEP 3	178.3	178.3	199.7	223.7
SOUTHWEST PLANT	299.0	299.0	334.8	375.0
CROSTOWN TUNNEL	118.4	118.4	132.6	148.5
CROSTOWN PUMP STATION	36.3	36.3	40.7	45.6
NORTH SHORE TRANSPORT	14.7	14.7	16.5	18.4
CHANNEL-ISLAIS FORCE MAIN	17.2	17.2	19.3	21.6
PROGRAM WIDE	10.0	10.0	10.0	10.0
SUB-TOTAL STAGE III	676.2	676.2	755.9	845.1
TOTAL STAGE I, II, III	2273.1	2282.1	2397.0	2522.0

* Including Headworks

3 YEAR FUNDING SCHEDULE

STAGE II	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
W - 1 TRANSPORT											
W - 3 TRANSPORT											
W - 4 PUMP STATION	1.5	28.0									29.5
W - 5 RICHMOND		2.3	41.9								44.2
W - 7 WST-ACTIVATION			0.2	4.0							4.2
W - 8 LAKE MERCED		1.2	36.8								38.0
W - H GREAT HIGHWAY		29.5									29.5
SWOOP OUTFALL (INCREASE)	40.6										40.6
SWWPCP I PLANT		98.9									98.9
HEADWORKS	6.8										6.8
SOLIDS	0.5	3.5		47.4							51.4
B - 1 TUNNEL	10.9		236.0								246.9
B - 2 PUMP STATION	6.0		106.4								112.4
B - 3 DIVISION		0.3	5.9								6.2
B - 4 ISLAIS	2.4		44.0								46.4
B - 5 S-Y		4.5	85.5								90.0
B - 6 HP		0.7	12.7								13.4
B - 7 M		0.5	10.2								10.7
B - 8		0.7									0.7
CITY-WIDE CONTROL											0.6
PHASE 1 (INTERIM)	0.1	0.5									11.1
PHASE 2 (FINAL)		0.5		10.6							0.7
NPX - 6B	0.7										3.4
N - 2A NSOC ACTIVATION	3.4										0.9
NPWPCP WWC	0.9										4.0
C - 5/NPX - 8 COC ACT.	0.2	3.8									15.9
S.E. COMMUNITY FACILITY	0.9	15.0									10.1
SOLIDS DEWATERING		10.1									9.6
SPLIT FLOW		0.6	9.0								12.0
COASTAL COMMISSION	12.0										27.8
PROGRAM WIDE	6.5	8.2	9.1	4.0							965.9
TOTAL (STAGE II)	93.4	208.8	597.7	66.0							

STAGE III	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
SWWPCP (PHASE II)								299.0			299.0
CROSSTOWN TRANSPORT								118.4			118.4
CROSSTOWN PUMP STATION								36.3			36.3
NORTHSHORE TRANSPORT								14.7			14.7
CHANNEL/ISLAIS F.M.								17.2			17.2
OCEAN OUTFALL (PHASE II)							2.3	178.3			180.6
PROGRAM WIDE								10.0			10.0
TOTAL (STAGE III)							2.3	673.9			676.2
TOTAL (STAGE II & III)	93.4	208.8	597.7	66.0			2.3	673.9			1,642.1

NOTE: TOTAL GRANTS ELIGIBLE, OCTOBER 1, 1980 = \$631.0 million

4 YEAR FUNDING SCHEDULE

(EMPHASIS ON CROSSTOWN TRANSPORT)

STAGE II	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
W - 1 TRANSPORT											
W - 3 TRANSPORT											29.5
W - 4 PUMP STATION	1.5	28.0									47.9
W - 5 RICHMOND		2.3		45.6							4.2
W - 7 WST-ACTIVATION			0.2	4.0							40.5
W - 8 LAKE MERCED		1.2		39.3							29.5
W - H GREAT HIGHWAY		29.5									40.6
SWOOP OUTFALL (INCREASE)	40.6										98.9
SWWPCP 1 PLANT		98.9									6.8
HEADWORKS	6.8										51.4
SOLIDS	0.5	3.5		47.4							246.9
B - 1 TUNNEL	10.9	236.0									112.4
B - 2 PUMP STATION	6.0		106.4								6.2
B - 3 DIVISION		0.3	5.9								46.4
B - 4 ISLAIS	2.4		44.0								90.0
B - 5 S-Y		4.5	85.5								14.4
B - 6 HP		0.7		13.7							11.5
B - 7 M		0.5		11.0							0.7
B - 8		0.7									0.6
CITY-WIDE CONTROL	0.1	0.5									11.1
PHASE 1 (INTERIM)		0.5		10.6							0.7
PHASE 2 (FINAL)											3.4
NPX - 6B	0.7										0.9
N - 2A NSOC ACTIVATION	3.4										4.0
NPWPCP WWC	0.9										15.9
C - 5/NPX - 8 COC ACT.	0.2	3.8									10.1
S.E. COMMUNITY FACILITY	0.9	15.0									9.6
SOLIDS DEWATERING		10.1									12.0
SPLIT FLOW		0.6	9.0								28.8
COASTAL COMMISSION	12.0										974.9
PROGRAM WIDE	6.5	8.2	9.1	5.0							
TOTAL (STAGE II)	93.4	444.8	260.1	176.6							

STAGE III	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
SWWPCP (PHASE II)								299.0			299.0
CROSSTOWN TRANSPORT								118.4			118.4
CROSSTOWN PUMP STATION								36.3			36.3
NORTHSHORE TRANSPORT								14.7			14.7
CHANNEL/ISLAIS F.M.								17.2			17.2
OCEAN OUTFALL (PHASE II)							2.3	178.3			180.6
PROGRAM WIDE								10.0			10.0
TOTAL (STAGE III)							2.3	673.9			676.2
TOTAL (STAGE II & III)	93.4	444.8	260.1	176.6			2.3	673.9			1,651.2

NOTE: TOTAL GRANTS ELIGIBLE, OCTOBER 1, 1980 = \$631.0 million

4 YEAR FUNDING SCHEDULE

(EMPHASIS ON SUNNYDALE/YOSEMITE & CROSSTOWN PUMP STATION)

STAGE II	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
W - 1 TRANSPORT											
W - 3 TRANSPORT											
W - 4 PUMP STATION	1.5	28.0									29.5
W - 5 RICHMOND		2.3		45.6							47.9
W - 7 WST-ACTIVATION			0.2	4.0							4.2
W - 8 LAKE MERCED		1.2		39.3							40.5
W - H GREAT HIGHWAY		29.5									29.5
SWOOP OUTFALL (INCREASE)	40.6										40.6
SWWPCP 1 PLANT		98.9									98.9
HEADWORKS	6.8										6.8
SOLIDS	0.5	3.5		47.4							51.4
B - 1 TUNNEL	10.9		236.0								246.9
B - 2 PUMP STATION	6.0	106.4									112.4
B - 3 DIVISION		0.3	5.9								6.2
B - 4 ISLAIS	2.4		44.0								46.4
B - 5 S-Y		90.0									90.0
B - 6 HP		0.7		13.7							14.4
B - 7 M		0.5		11.0							11.5
B - 8		0.7									0.7
CITY-WIDE CONTROL											0.6
PHASE 1 (INTERIM)	0.1	0.5									11.1
PHASE 2 (FINAL)		0.5		10.6							0.7
NPX - 6B	0.7										3.4
N - 2A NSOC ACTIVATION	3.4										0.9
NPWPCP WWC	0.9										4.0
C - 5/NPX - 8 COC ACT.	0.2	3.8									15.9
S.E. COMMUNITY FACILITY	0.9	15.0									10.1
SOLIDS DEWATERING		10.1									9.6
SPLIT FLOW		0.6	9.0								12.0
COASTAL COMMISSION	12.0										28.8
PROGRAM WIDE	6.5	8.2	9.1	5.0							974.9
TOTAL (STAGE II)	93.4	400.7	304.2	176.6							

STAGE III	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
SWWPCP (PHASE II)								299.0			299.0
CROSSTOWN TRANSPORT								118.4			118.4
CROSSTOWN PUMP STATION								36.3			36.3
NORTHSHORE TRANSPORT								14.7			14.7
CHANNEL/ISLAIS F.M.								17.2			17.2
OCEAN OUTFALL (PHASE II)							2.3	178.3			178.3
PROGRAM WIDE								10.0			10.0
TOTAL (STAGE III)							2.3	673.9			676.2

TOTAL (STAGE II & III)	93.4	400.7	304.2	176.6			2.3	673.9			1,651.2
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NOTE: TOTAL GRANTS ELIGIBLE, OCTOBER 1, 1980 = \$631.0 million

5 YEAR FUNDING SCHEDULE

STAGE II	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
W - 1 TRANSPORT											
W - 3 TRANSPORT											29.5
W - 4 PUMP STATION	1.5	28.0									53.4
W - 5 RICHMOND		2.3			51.1						4.2
W - 7 WST-ACTIVATION			0.2	4.0							45.2
W - 8 LAKE MERCED		1.2			44.0						29.5
W - H GREAT HIGHWAY		29.5									40.6
SWOOP OUTFALL (INCREASE)	40.6										98.9
SWWPCP I PLANT		98.9									6.8
HEADWORKS	6.8										51.4
SOLIDS	0.5	3.5		47.4							267.9
B - 1 TUNNEL	10.9			257.0							112.4
B - 2 PUMP STATION	6.0		106.4								6.2
B - 3 DIVISION		0.3	5.9								46.4
B - 4 ISLAIS	2.4		44.0								90.0
B - 5 S-Y		4.5	85.5								14.4
B - 6 HP		0.7		13.7							11.5
B - 7 M		0.5		11.0							0.7
B - 8		0.7									0.6
CITY-WIDE CONTROL											
PHASE 1 (INTERIM)	0.1	0.5									11.1
PHASE 2 (FINAL)		0.5		10.6							0.7
NPX - 6B	0.7										3.4
N - 2A NSOC ACTIVATION	3.4										0.9
NPWPCP WWC	0.9										4.0
C - 5/NPX - 8 COC ACT.	0.2	3.8									15.9
S.E.COMMUNITY FACILITY	0.9	15.0									10.1
SOLIDS DEWATERING		10.1									9.6
SPLIT FLOW		0.6	9.0								12.0
COASTAL COMMISSION	12.0										32.8
PROGRAM WIDE	6.5	8.2	9.1	5.0	4.0						1010.1
TOTAL (STAGE II)	93.4	208.8	260.1	348.7	99.1						

STAGE III	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
SWWPCP (PHASE II)									334.8		334.8
CROSSSTOWN TRANSPORT									132.6		132.6
CROSSSTOWN PUMP STATION									40.7		40.7
NORTHSHORE TRANSPORT									16.5		16.5
CHANNEL/ISLAIS F.M.									19.3		19.3
OCEAN OUTFALL (PHASE II)									199.7		202.0
PROGRAM WIDE									10.0		10.0
TOTAL (STAGE III)								2.3	753.6		755.9
TOTAL (STAGE II & III)	93.4	208.8	260.1	348.7	99.1			2.3	753.6		1766.0

NOTE: TOTAL GRANTS ELIGIBLE , OCTOBER 1, 1980 = \$631.0 million

6 YEAR FUNDING SCHEDULE

STAGE II	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
1 TRANSPORT											
3 TRANSPORT											29.5
4 PUMP STATION	1.5	28.0				57.2					59.5
5 RICHMOND		2.3									4.2
7 WST-ACTIVATION			0.2	4.0							50.5
8 LAKE MERCED		1.2				49.3					29.5
H GREAT HIGHWAY		29.5									40.6
WDDP OUTFALL(INCREASE)	40.6										98.9
WPCP 1 PLANT		98.9									6.8
HEADWORKS	6.8										51.4
SOLIDS	0.5	3.5		47.4							267.9
1 TUNNEL	10.9			257.0							112.4
2 PUMP STATION	6.0		106.4								6.2
3 DIVISION		0.3	5.9								56.0
4 ISLAIS	2.4				53.6						95.9
5 S-Y		4.5		91.4							16.0
6 HP		0.7			15.3						12.8
7 M		0.5			12.3						0.7
8		0.7									0.6
CITY-WIDE CONTROL	0.1	0.5									11.1
PHASE 1 (INTERIM)		0.5		10.6							0.7
PHASE 2 (FINAL)											
NPX - 6B	0.7										3.4
W - 2A NSOC ACTIVATION	3.4										0.9
WPCP WWC	0.9										4.0
5/NPX - 8 COC ACT.	0.2	3.8									15.9
S.E.COMMUNITY FACILITY	0.9	15.0									10.1
SOLIDS DEWATERING		10.1									9.6
SPLIT FLOW		0.6	9.0								12.0
COASTAL COMMISSION	12.0										38.8
PROGRAM WIDE	6.5	8.2	9.1	5.0	5.0	5.0					1045.9
TOTAL (STAGE II)	93.4	208.8	130.6	415.4	86.2	111.5					

STAGE III	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	TOTAL
SWPCP (PHASE II)										375.0	375.0
CROSSTOWN TRANSPORT										148.5	148.5
CROSSTOWN PUMP STATION										45.6	45.6
NORTHSHORE TRANSPORT										18.4	18.4
CHANNEL/ISLAIS F.M.										21.6	21.6
OCEAN OUTFALL (PHASE II)									2.3	223.7	226.0
PROGRAM WIDE										10.0	10.0
TOTAL (STAGE III)											845.1
TOTAL (STAGE II & III)	93.4	208.8	130.6	415.4	86.2	111.5			2.3	842.8	1891.0

NOTE: TOTAL GRANTS ELIGIBLE , OCTOBER 1, 1980 = \$631.0 million

FUNDING SCHEDULE ASSUMPTIONS

<u>AWARD</u>	<u>NEW AWARD</u>	<u>DELAY (MONTHS)</u>	<u>CONSTRUCTION ENDS</u>	<u>PROPOSED GRANT OFFER RELATIVE TO AWARD DATE IN 3 YEAR SCHEDULE</u>
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3 YEAR FUNDING SCHEDULE

(SAME FISCAL YEAR AS AWARD DATE)

4 YEAR FUNDING SCHEDULE

(Emphasis on Sunnydale/Yosemite & Crosstown Pump Station)

Sunnydale/Yosmita	5/83	5/83	0	6/86	FY 82 (One F/Y earlier)
Crosstown Pump Station	3/83	3/83	0	4/86	FY 82 (One F/Y earlier)
Richmond Transport	3/83	12/83	9	5/86	FY 84 (One F/Y later)
Lake Merced	5/83	12/83	7	3/86	FY 84 (One F/Y later)
Hunters Point	4/83	12/83	8	7/85	FY 84 (One F/Y later)
Mariposa	4/83	12/83	8	7/85	FY 84 (One F/Y later)

4 YEAR FUNDING SCHEDULE

(Emphasis on Crosstown Transport)

Crosstown Transport	3/83	3/83	0	8/86	FY 82 (One F/Y earlier)
Sunnydale/Yosemite	5/83	5/83	0	6/86	FY 83 (No change)
Crosstown Pump Station	3/83	3/83	0	4/86	FY 83 (No Change)

5 YEAR FUNDING SCHEDULE

Crosstown Transport	3/83	12/83	9	5/87	FY 84 (One F/Y later)
Richmond Transport	3/83	12/84	21	5/87	FY 85 (Two F/Y later)
Lake Merced	5/83	12/84	19	3/87	FY 85 (Two F/Y later)

6 YEAR FUNDING SCHEDULE

Sunnydale/Yosemite	5/83	12/83	7	1/87	FY 84 (One F/Y later)
Islais Creek Transport	3/83	12/84	21	7/87	FY 85 (Two F/Y later)
Mariposa	4/83	12/84	20	7/86	FY 85 (Two F/Y later)
Hunters Point	4/83	12/84	20	7/86	FY 85 (Two F/Y later)
Richmond	3/83	12/85	33	5/88	FY 86 (Three F/Y later)
Lake Merced	5/83	12/85	31	3/88	FY 86 (Three F/Y later)